

ROOFING

CHAPTER 11

TYPES

The types of roofing included in this chapter are built-up, roll, shingle, metal, asbestos-cement, and tile. Table 11-1, page 11-2, includes melting asphalt, laying felt, mopping, and laying gravel for built-up roofing. Table 11-2, page 11-2, includes cleaning

deck, applying prime coat, and laying rolls for roll roofing. Table 11-3, page 11-3, includes placing and nailing shingle roofing. Table 11-4, page 11-3, includes placing, caulking, drilling, and fastening materials for metal, asbestos-cement, and tile roofing.

ESTIMATING TABLES

Tables 11-1 through 11-5, pages 11-2 through 11-4, may be used in preparing detailed-man-hour estimates for roofing. These tables include allowances for unload-

ing, hoisting, and storing materials at the construction site. They do not include hours needed for loading and hauling materials to the job site.

EXAMPLE OF TABLE USE

Problem. A warehouse is to be built in a tropical area. Heavy rains require a 4-ply built-up roof to be applied during the dry season. Estimate the number of man-hours needed to build the roof, based on the following material estimate:

Roof, 4-ply built-up	_____	5,000 Sq ft
Roof insulation	_____	5,000 Sq ft
Flashing	_____	300 lin ft

Solution. Because crews are inexperienced, the man-hours/unit are increased 30 percent over the figures given in Table 11-1.

	Unit	x	Man-hours/unit =	Subtotal
Roof, 4-ply built-up . .	5		33	165
Insulation	5		33	165
Flashing	0.3		78	<u>23</u>
Total man-hours				353

Table 11-1. Built-up roofing, insulation, and flashing

Work element description	Unit	Man-hours/unit
Roofing	1,000 sq ft	
2 ply		12
3 ply		20
4 ply		25
5 ply		30
Insulation	1,000 sq ft	25
Flashing	1,000 sq ft	60
Typical crew: 1 leader and 6 workers.		

Table 11-2. Roll roofing

Work element description	Unit	Man-hours/unit
Paper (plain) and felt	1,000 sq ft	7
Asphaltic aluminum (including primer)	1,000 sq ft	18
Canvas (including 2 coats paint)	1,000 sq ft	25
Typical crew: 1 leader and 6 workers.		

Table 11-3. Shingle roofing

Work element description	Unit	Man-hours/unit
Wood	1,000 sq ft	35
Slate	1,000 sq ft	55
Metal	1,000 sq ft	50
Asphalt	1,000 sq ft	30
Typical crew size: 1 leader and 4 workers.		

**Table 11-4. Metal, asbestos-cement, and tile roofing
(pitch at least 3 inches/foot)**

Work element description	Unit	Man-hours/unit
Metal	1,000 sq ft	
Corrugated and V-crimp		
Wood purlins		18
Metal purlins		36
Sheet (seamed)		60
Asbestos-cement	1,000 sq ft	
Wood purlins		35
Metal purlins		45
Tile	1,000 sq ft	
Clay		55
Metal		60
Typical crew: 1 leader and 5 workers.		

Table 11-5. Waterproofing

Work element description	Unit	Man-hours/unit
Built-up roofing		
3-ply	square	4
4-ply	square	5
5-ply	square	6
Roof insulation	square	
Asphaltic aluminum roofing		
Asphaltic primer	square	1.5
Asphaltic aluminum	square	1.5
Shingle roofing (including felt paper)		
Asphalt shingles	square	5
Wood shingles	square	7
Asbestos shingles	square	9
Corrugated roofing		
Corrugated or V-crimp metal		
On wood purlins	square	3.5
On metal framing	square	7
Corrugated asbestos, cement		
On wood purlins	square	6
On metal framing	square	8
Suggested crew size: 4 to 12 workers.		
NOTES:		
1. All estimates are based on 50 percent experienced crews with good supervision.		
2. Insulation installation should not exceed that which can be covered with roofing the same day.		
3. For below-grade waterproofing, use 75 percent of the figures listed.		
4. Crew size will be dictated by safety, equipment used, scope of work, and number of operations involved.		